

ABSTRACT OF THE DISCLOSURE

An optical unit, comprising: a light source; a color separation means for separating a light emitted from the light source into plural pieces of color lights; reflection-type image display elements, upon each being incident the corresponding color of the lights from the color separation means, and for forming an optical image for each of the color lights, depending upon an image signal, with using polarization characteristics which the reflection-type image display elements have; and a color synthesizing means for synthesizing the optical images of the respective color lights, to be projected through a projection lens, enlargedly, and further comprising: a reflection-type polarization plate functioning as a polarization plate due to diffraction, being provided on an optical path extending from the color separation means to the reflection-type image display elements, to be a polarizer and an analyzer to the reflection-type image display elements; and an optical chassis for holding the reflection-type polarization plate and the reflection-type image display elements thereon, and having a translucent window on an incident light side of the reflection-type polarization plate while an exiting light side of the reflection-type polarization plate is sealed with an incident surface of the color synthesizing means, wherein a hermetically sealed space is defined by the optical chassis, the reflection-type image display elements and the incident surface of the color synthesizing means, and within the hermetically sealed space is disposed a translucent liquid having refraction index from 1.2 to 1.9.